

having different soil requirements. At the same time we cannot overlook its relationship with the southern area between Cape Riehe and Israelite Bay, especially in connection with its conjunctive species—*Eucalyptus tetragona* and *Adenanthos cuneata*, and here we are forced to the belief that these plants remain as vestiges of a formerly more common area of distribution. What the factors involved are, we do not know, perhaps an inability on the part of more aggressive species to colonise the area, or a certain fitness on the part of the plants concerned to thrive under these peculiar conditions. Whatever the answer, the fact remains that the Hill River-Mount Lesueur district remains as one of the most interesting, and fortunately one of the most inaccessible regions of the South-West.

I am indebted to Mr. F. Gregson of Coekleshell Gully for valuable assistance in visiting some of the remote areas mentioned in this account and also for his freely-imparted information.

Explanation of Plate.—A, Habit (reduced). B, portion of inflorescence. C, flower. D, section of flower. E, anther. F and G, section of ovary.

BIRDS OBSERVED AT SEA IN 1938

By L. GLAUERT, W.A. Museum, Perth.

The ocean traveller who is the fortunate possessor of W. B. Alexander's "Birds of the Ocean" and a good pair of field-glasses can spend many happy hours watching the sea-birds that come into view. But if he has neither of these or one only, then he is greatly handicapped, as I found to my cost during my outward voyage to England in 1938, when I had to depend upon the naked eye.

On the trip to Sydney, which commenced on March 21, little could be recorded. The Yellow-nosed Albatross (*Diomedea chlororhynchos*) was abundant off the south coast from Cape Leeuwin until Albany was left behind, when it soon disappeared. Several Albatrosses were seen when crossing the Great Australian Bight; some large blackish birds could not be identified though one which came nearer to the vessel turned out to be a Giant Petrel (*Macronectes giganteus*). Passing along the coast of New South Wales, I was impressed by the relative scarcity of gulls and terns and the abundance of skuas, both the Southern Skua (*Catharacta skua*) and Richardson's (*Stercorarius parasiticus*) being identified with certainty.

In the vicinity of the Three Kings Islands, off the north of New Zealand, a number of petrels were seen flying in dirty weather though too far off to be recognised. On April 18, Auckland Harbour provided a surprise with its tame gulls; the large Black-backed Gull (*Larus dominicanus*) seemed to favour the

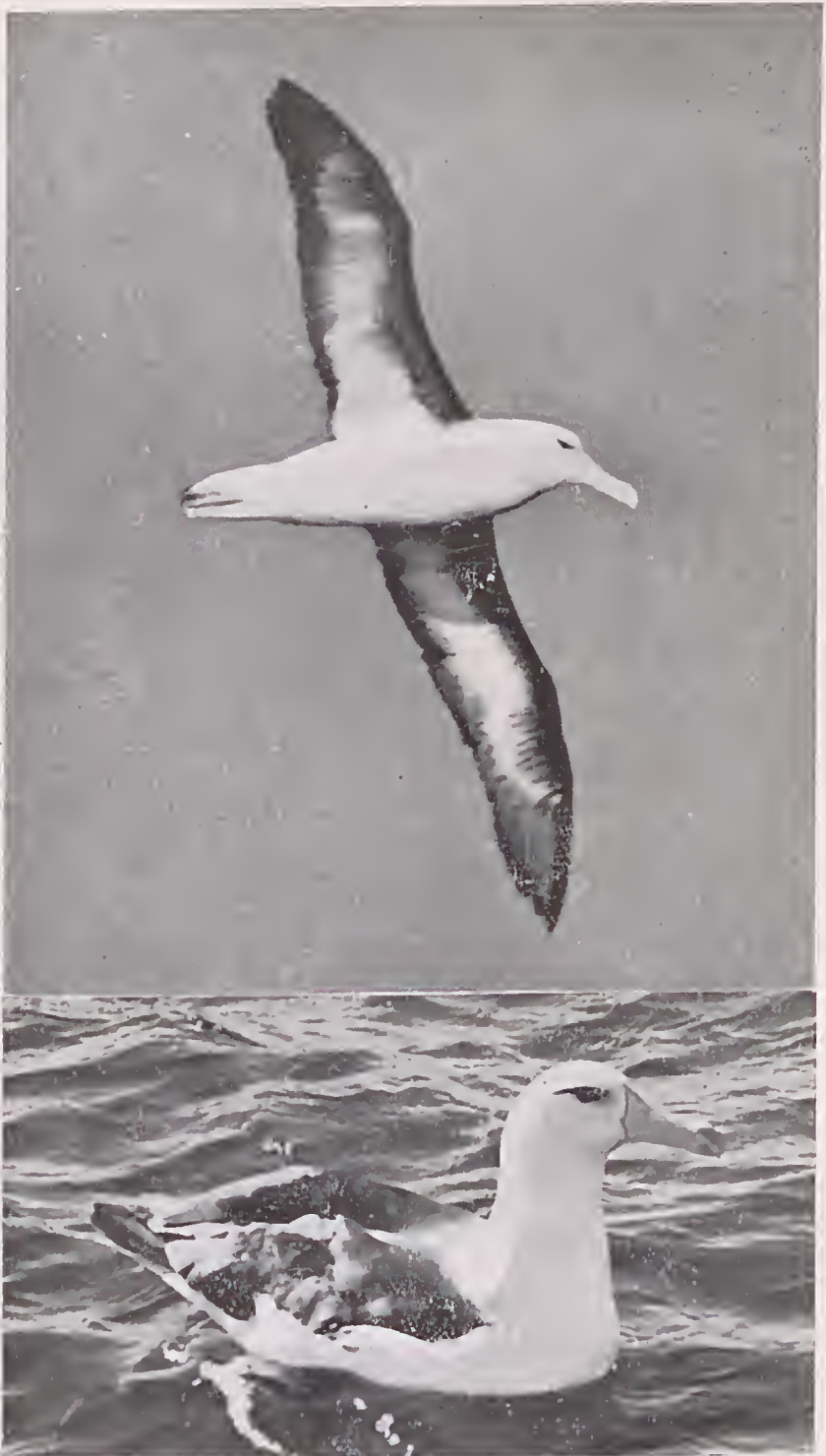
roofs of sheds as resting sites, and the Silver Gull (*L. novae-hollandiae*) was plentiful in the grounds of the Auckland Institute, some distance from the water. It was a joy to see both these birds so fearless.

On the passage from New Zealand to Fiji, which was reached on April 22, sea-birds were seen but the only one to be identified was the Red-tailed Tropic-bird (*Phaethon rubricaudus*). Leaving Suva behind and approaching Hawaii we were soon in the area of the northern Black-footed Albatross (*Diomedea nigripes*), which was with us within two days sail of Vancouver. At that time, attention was attracted by the vast swarms of the siphonophore, *Velella*, through which the vessel ploughed its way for two days—the swarm must have numbered millions.

During the crossing of the Atlantic few birds were seen, probably because of it being their breeding season. However, on June 16, when six days from New York and three from Galway, a few wholly dark petrels were noted; these were most likely the Sooty Shearwater (*Puffinus griseus*), a species visiting the North Atlantic in the northern summer. The next day one or two were seen together with Fulmars (*Fulmarus glacialis*) which were more numerous.

As Ireland was approached a greater variety was noticed. Those that could be identified included several species of gulls, including the so-called Common Gull (*Larus canus*), the Lesser Black-backed Gull (*L. fuscus*) and the Kittiwake (*Rissa tridactyla*). Storm-petrels had been seen on many occasions, even in Galway Bay; some seemed to have longer legs, others shorter ones so that I was confused as to their identity. Other birds seen were the Little Auk (*Alle alle*), which was new to me, the Puffin (*Fratereula arctica*), so easily recognised by its gaudily coloured bill in the summer time, and the Gannet (*Sula bassana*), especially off south-western Ireland. Several terns and petrels were seen in the distance but never close enough for the details to be distinguished.

On the return voyage from England, via the Cape, conditions were more favourable. I had managed to secure binoculars and had many opportunities for appreciating their value. On September 19, off Cape Blanco, about Lat. 21° N., many small black and white storm-petrels were seen, presumably the Wilson Storm-petrel (*Oceanites oceanicus*). Then for several days no sea-birds were observed, but a surprise was given on September 26, when at Lat. 16° 22' S., I saw my first Wandering Albatross (*Diomedea exulans*), a young bird with the "white star" on its wings. The position, less than a thousand miles south of the equator, was unusual and according to one of the ship's officers indicated stormy weather ahead. Several of the birds were seen next day and after that they became constant companions. Cape Hens (*Procellaria aequinoctialis*) and Cape Petrels (*Daption capense*) made their first appearance at Lat. 26° 36' S., followed



Black-browed Albatross (*Diomedea melanophrys*): Upper view shows the characteristic under-wing pattern.

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the next day by a variety of species, including a flock of eleven Prions.

On October 1 in the bay at Capetown, before entering the harbour, we saw numerous little parties of Jackass Penguins (*Spheniscus demersus*), their fearless behaviour being in marked contrast to the timidity of our local Fairy Penguin (*Eudyptula minor*) and made me wonder at the cause.

Passing along the coast to Durban many Cape Hens, Cape Petrels and Albatrosses were seen, but after leaving that port on October 6, my diary is a blank for several days until at Lat. 33° 15' S., Long. 42° 24' E., I noted my first Yellow-nosed Albatross (*Diomedea chlororhynchos*) and Giant Petrel (*Macronectes giganteus*). These with the Wandering Albatross, Cape Petrels and Cape Hens were then our companions for several days. On one occasion a Cape Hen was noticed which had lost one of its flight feathers and was, therefore, conspicuous from its fellows; this bird attended the ship for three successive days and then vanished.

On October 15, when at Lat. 36° 05' S., Long. 85° 05' E., the assemblage of birds was increased by the presence of the Sooty Albatross (*Phoebastria sp.*) which, however, did not come close enough to enable the colour of its mandibular sulcus to be distinguished—the slender bill and less laboured flight showed it was not a Giant Petrel.

The vessel was now in the vicinity of the islands in the mid-Indian Ocean, so that a considerable increase in the bird population seen was not surprising. Prions skimmed the waves in their characteristic fashion, vanishing when the blue backs were showing but flashing into view when a turn revealed the white under-surface. Individuals of the Black-browed Albatross (*Diomedea melanophrys*) appeared together with a strange petrel which seemed to be the Grey Petrel or Padiunker (*Procellaria cinerea*). The next day three skuas (*Catharacta skua*) put in an appearance, one even spending some considerable time perched on a mast.

The last Cape Hen was seen on October 16, but the Cape Petrels remained still with us and also the Wandering and Black-browed and the Yellow-nosed Albatrosses. On October 19, the day before reaching Rottneest Island, the last Wandering Albatross left, the Yellow-nosed not disappearing until Rottneest itself came into view. Here we were greeted by Silver Gulls and the local species of terns, indicating that the ocean voyage was over.

WESTERN AUSTRALIAN JEWEL BEETLES

By F. LAWSON WHITLOCK, Bunbury.

In modern times, there has never been any lack of bird-lovers and present-day publications further popularise their study. On the whole, birds are the friends of man and are perhaps his